

<b>Cascades Auburn Fiber, Inc.</b>	)	<b>Departmental</b>
<b>Androscoggin County</b>	)	<b>Findings of Fact and Order</b>
<b>Auburn, Maine</b>	)	<b>Air Emission License</b>
<b>A-600-71-I-R/M</b>	)	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

## **I. REGISTRATION**

### **A. Introduction**

Cascades Auburn Fiber, Inc. (Cascades) of Auburn, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their market de-inked pulp mill.

Cascades has also requested a minor revision to their license in order to include a fire pump that was not listed on their previous license.

### **B. Emission Equipment**

Cascades is authorized to operate the following equipment:

#### **Fuel Burning Equipment**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBtu/hr)</u></b>	<b><u>Maximum Firing Rate</u></b>	<b><u>Fuel Type</u></b>	<b><u>Stack #</u></b>
Boiler #1	36.0	35,000 scf/hr 383 gal/hr	natural gas propane	1
Heater #1	3.0	2,913 scf/hr 31.9 gal/hr	natural gas propane	vent
Heater #2	3.0	2,913 scf/hr 31.9 gal/hr	natural gas propane	vent
Heater #3	3.0	2,913 scf/hr 31.9 gal/hr	natural gas propane	vent
Heater #4	3.0	2,913 scf/hr 31.9 gal/hr	natural gas propane	vent
Fire Pump	0.8	6 gal/hr	Diesel Fuel @ 0.05% Sulfur	vent

C. Application Classification

The addition of the fire pump to this license will increase emissions by less than 4 ton/year for each single pollutant and less than 8 ton/year for all pollutants combined. Therefore, this application is determined to be a license renewal with a minor revision and has been processed as such.

## II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boiler #1

The 36.0 MMBtu/hr fire tube package boiler supplies process steam for the facility by combusting natural gas and/or propane. The boiler was manufactured in 1994, and installed in 1995, and is therefore subject to 40 CFR Part 60, Subpart Dc. Air pollution control equipment on the boiler includes flue gas recirculation and low NO<sub>x</sub> burners.

A summary of the previous BACT analysis (License # A-600-71-B-A) for each of the pollutants which now represents BPT is discussed below:

1. SO<sub>2</sub>

The use of natural gas and propane fuels represents BPT for the release of SO<sub>2</sub> emissions from the boiler. By combusting natural gas and propane rather than oil, the amount of sulfur dioxide available in the fuel is minimized. Therefore, SO<sub>2</sub> emissions are minimized without the need for post combustion controls.

2. NO<sub>x</sub>

Cascades has selected low NO<sub>x</sub> burners with flue gas recirculation for controlling NO<sub>x</sub> emissions from the fire tube boiler. The Department concludes that with low NO<sub>x</sub> burners and flue gas recirculation, the limit of 0.08 lb/MMBtu represents BPT when burning natural gas or propane.

The Department has concluded that annual tune-ups as prescribed in Chapter 138 shall replace the need for flue gas recirculation monitoring and recording, and also

shall replace the analog flue gas oxygen monitoring and recording system. The annual tune-up shall comply with the following requirements:

- A. A tune-up procedure file must be kept on-site and made available to the Department upon request,
- B. An oxygen/carbon monoxide curve or an oxygen/smoke curve must be kept on file,
- C. Once the optimum excess oxygen setting has been determined, Cascades shall periodically verify that the setting remains at that value, and
- D. If the minimum oxygen level found is substantially higher than the value provided by the combustion unit manufacturer, Cascades must improve the fuel and air mixing, thereby allowing operation with less air.

3. PM, PM<sub>10</sub>, CO and VOC

Combustion control has been implemented by Cascades to minimize PM, PM<sub>10</sub>, CO and VOC emissions from the boiler. MEDEP Chapter 103 regulates Particulate Matter (PM) emissions. However, a PM emission limit of 0.01 lb/MMBtu is more stringent and shall be considered BPT. The PM<sub>10</sub> limits are derived from the PM limits. Proper boiler design and combustion optimization reduces the formation of semi-oxidized combustion products including PM, CO and VOC. The combustion zone is extended in the fire tube design, improving fuel residence time and carbon burnout. Fuel and air valves are controlled by preset levers with set point fuel to air ratios corresponding to low through high firing rates. The controls and instruments mentioned above represent BPT for the release of PM, PM<sub>10</sub>, CO and VOC emissions from the boiler.

4. Visible emissions from Boiler #1 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

C. In-Plant Heaters

The four in-plant makeup heaters heat outside air by direct firing of natural gas or propane and operate only when outside temperatures are below 45-50 °F. The dry makeup air generated heats the facility process area. The process area will be exhausted by separate exhaust ventilators.

Based on the size and use of the four heaters, the direct firing of natural gas or propane represents BPT for the emissions from these units. The direct firing produces a cooler gas flame resulting in low thermal NO<sub>x</sub> formation and the fuel type and overall operation of the heaters results in minimal total emissions.

Visible emissions from the Heaters shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

D. Fire Pump

Cascades operates a fire pump rates at 0.8 MMBtu/hr for emergency purposes. A BACT summary for the fire pump is the following:

1. The fire pump shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. The fire pump shall be limited to 500 hr/yr of operation based on a 12 month rolling total. An hour meter shall be maintained and operated and a written log shall be kept for compliance purposes.
3. Chapter 106 regulates fuel sulfur content, however the use of diesel fuel with a sulfur content not to exceed 0.05% is more stringent and shall be considered BACT.
4. A PM emission factor of 0.12 lb/MMBtu shall be considered BACT. The PM<sub>10</sub> limit is derived from the PM limit.
5. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from the fire pump shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

E. Annual Emission Restrictions

Cascades shall be restricted to the following annual emissions, based on a 12-month rolling total. Emissions are based on the continuous operation of Boiler #1 and the Heaters, and the annual operational limit of 500 hours for the fire pump:

Emission Unit	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler #1	1.58	1.58	0.09	12.61	12.99	0.85
Heaters	0.53	0.53	0.03	5.15	4.33	0.28
Fire Pump	0.02	0.02	0.01	0.88	0.19	0.07
<b>Total</b>	<b>2.13</b>	<b>2.13</b>	<b>0.13</b>	<b>18.64</b>	<b>17.51</b>	<b>1.20</b>

### III.AMBIENT AIR QUALITY ANALYSIS

A combination of screening and refined modeling was performed to provide information for the Cascades license that was issued July 9, 1993 (A-600-73-A-N). This modeling showed that the applicant in conjunction with other sources would not cause or contribute to violations of Maine Ambient Air Quality Standards (MAAQS) for SO<sub>2</sub>, PM<sub>10</sub>, NO<sub>2</sub> and CO or to Class II increments for SO<sub>2</sub>, TSP and NO<sub>2</sub>. Additional modeling is not required at this time.

## **ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-600-71-I-R/M subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

## **STANDARD CONDITIONS**

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
  - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    2. pursuant to any other requirement of this license to perform stack testing.
  - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.[MEDEP Chapter 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [MEDEP Chapter 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

## SPECIFIC CONDITIONS

(16) Boiler #1

- A. Boiler #1 shall fire only Natural Gas or Propane. Cascades shall maintain records of fuel use demonstrated by fuel supplier receipts, on a monthly basis, in addition to a 12-month rolling total. [MEDEP Chapter 115, BPT]
- B. Emissions shall not exceed the following: [MEDEP Chapter 115, Chapter 103, BPT]

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Boiler #1	lb/MMBtu	0.01	-	-	-	-	-
	lb/hr	0.36	0.36	0.02	2.88	2.96	0.19

- C. Visible emissions from Boiler #1 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period. [MEDEP Chapter 101]
- D. Cascades shall comply with all of the applicable reporting and recordkeeping requirements established in 40 CFR Part 60, Subparts A and Dc.
- E. Cascades shall perform annual boiler tune-ups on Boiler #1 that comply with Chapter 138 of the Maine Air Regulations. Chapter 138 requires the following:
- A tune-up procedure file must be kept on-site and made available to the Department upon request,
  - An oxygen/carbon monoxide curve or an oxygen smoke curve must be kept on file,
  - Once the optimum excess oxygen setting has been determined, the owner or operator of a source must verify and record monthly that the settings have remained at that value, and
  - If the minimum oxygen level found is substantially higher than the value provided by the unit manufacturer, the owner or operator must improve the fuel and air mixing, thereby allowing operation with less air.



(17) Heaters #1, #2, #3 and #4

- A. The Heaters shall fire only Natural Gas or Propane. [MEDEP Chapter 115, BPT]
- B. Emissions shall not exceed the following: [MEDEP Chapter 115, Chapter 103, BPT]

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Heater #1	lb/MMBtu	0.01	-	-	-	-	-
	lb/hr	0.03	0.03	0.01	0.29	0.25	0.02
Heater #2	lb/MMBtu	0.01	-	-	-	-	-
	lb/hr	0.03	0.03	0.01	0.29	0.25	0.02
Heater #3	lb/MMBtu	0.01	-	-	-	-	-
	lb/hr	0.03	0.03	0.01	0.29	0.25	0.02
Heater #4	lb/MMBtu	0.01	-	-	-	-	-
	lb/hr	0.03	0.03	0.01	0.29	0.25	0.02

- C. Visible emissions from the Heaters shall each not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period. [MEDEP Chapter 101]

(18) Fire Pump

- A. The fire pump shall fire diesel fuel with a sulfur content not to exceed 0.05%. Records from the supplier documenting sulfur content shall be kept for compliance purposes. [MEDEP Chapter 115, BACT]
- B. The fire pump shall be limited to 500 hours of operation on a 12 month rolling total. An hour meter shall be maintained and operated and a written log kept for compliance purposes. [MEDEP Chapter 115, BACT]
- C. Emissions shall be limited to the following: [MEDEP Chapter 115, BACT]

Equipment		PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Fire Pump	lb/hr	0.10	0.10	0.04	3.53	0.76	0.28

- D. Visible emissions from the fire pump shall not exceed an opacity of 20 percent on a six (6) minute block average basis, except for no more than two (2), six (6) minute block averages in a 3-hour period. [MEDEP Chapter 101]

Cascades Auburn Fiber, Inc. )  
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(19) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [MEDEP Chapter 101]

- (20) Cascades shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 MRSA §605).

(21) **Payment of Annual License Fee**

Cascades shall pay the annual air emission license fee within 30 days of **July 31st** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS                      DAY OF                      2006.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: \_\_\_\_\_  
DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 1/17/2006

Date of application acceptance: 1/19/2006

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Jonathan Voisine, Bureau of Air Quality.